

# **1999 NEW YORK CITY HOUSING AND VACANCY SURVEY LONGITUDINAL SAMPLE DESIGN, ESTIMATION PROCEDURE AND ACCURACY STATEMENT**

The purpose of the 1999 New York City Housing and Vacancy Survey (NYCHVS) is to measure rental and homeowner vacancy rates, as well as various household and person characteristics. New York City is required by law periodically to conduct such a survey in order to determine if rent regulations should be continued. The actual enumeration was between mid-January and mid-May of 1999.

## **I. SAMPLE DESIGN**

New York City's prime consideration is the "vacant available for rent" rate. This rate is the ratio of the vacant available for rent units to the total number of renter occupied and vacant available for rent units for the entire city. The design required the standard error of the estimate of this rate for the entire city be no more than one-fourth of one percent, if the actual rate was three percent.

The Census Bureau selected the sample from the following four sample frames:

1. Housing units included in the 1990 Census.
2. Housing units constructed since the 1990 Census.
3. Units which were nonresidential at the time of the 1990 Census, but have since been converted to housing units.
4. Housing units in structures owned by New York City (in rem) that were over-sampled in order for the City to learn more about the characteristics of occupants of these types of units. These housing units are all part of frame one with maybe a few in frame three.

### **A. Housing Units Included in the 1990 Census**

Within this frame, the Census Bureau sorted the housing units by:

C	Borough
C	Sub-borough
C	Percent renter occupied in the block
C	Tract
C	Block number
C	Basic street address
C	Unit designation

A systematic sample of housing units were selected across all boroughs. This frame

included in rem units.

**B. Housing Units Constructed Since the 1990 Census**

The Census Bureau selected units in this frame from Certificates of Occupancy (C of Os) issued between April 1, 1990 and October 31, 1998. The housing units on the C of Os were sorted by borough and date (i.e., year and month) of issue. A systematic sample of housing units within each borough was selected. Each structure containing sample housing units was listed and assigned unit designations based on the order in which the sample housing unit appeared on these listings. The Census Bureau dropped all sample housing units that were also on the 1990 census file from this sample.

**C. Housing Units Converted from Non-residential Units Since the 1990 Census**

Housing units in this frame were eligible for sample if a conversion C of O was issued for the structure between April 1, 1990 and October 31, 1998. The Census Bureau selected the sample from this frame using the same procedure as the frame for housing units constructed since the 1990 census.

**D. Housing Units in Structures Owned by New York City (in rem)**

This frame consisted of units in structures owned by New York City as of October 1998. The City owned these units because the owner failed to pay either real estate tax or other charges or both on the property. In 1991, 1993, and 1996, the Census Bureau selected a supplemental sample of in rem units from the City's in rem lists at the time of each enumeration to supplement the sample of in rem units from the 1990 Census frame. In 1999, units selected for the supplemental sample in previous enumerations were kept if they were still on the City's in rem lists. In rem units from prior years= supplemental samples which were no longer on the City's in rem lists were dropped. As a result, the Census Bureau needed to select additional supplemental in rem sample cases for 1999.

The supplemental sample of in rem units was selected in two steps:

1. The buildings were sorted by:

C	enumeration the building was added to the City's in rem lists,
C	borough, and
C	size of the building (number of units)

and a systematic sample of buildings was selected.

2. After listing the individual units in each building, a systematic sample of units within each sample building was selected.

#### **E. Sample Size**

Within each frame, the Census Bureau selected clusters (groups of housing units) of generally four housing units. For all frames except the in rem frame, the four housing units were consecutive units. For the in rem frame, a systematic sample of the four housing units was selected within each sample building.

The total number of sample housing units for New York City was 18,180. Of these housing units, 1,060 interviews were not obtained because, for occupied housing units, the occupants:

- C refused to be interviewed,
- C were not at home after repeated visits, or
- C were unavailable for some other reason.

For vacant units, an interview was not obtained if no informed respondent could be found after repeated visits. These 1,060 noninterviews are known as type-A noninterviews. This classification produced a 94-percent overall response rate. There were an additional 658 units, known as type-C noninterviews, that were not interviewed because they no longer exist or are uninhabitable. The table below provides the total number of sampled housing units by borough.

Borough	Number of Housing Units
Bronx	2,735
Brooklyn	5,146
Manhattan	4,916
Queens	4,504
Staten Island	879
Total	18,180

The sample housing units were visited in mid-January through mid-May 1999 by field representatives (FRs) hired and trained for this task. The FRs visited each sample address and completed a questionnaire for both occupied and vacant units. In addition, for evaluation purposes, the occupancy status of all vacant units and a sample of

occupied units was independently determined in a reinterview. An independent third interview reconciled any differences.

## **F. Exclusions**

The survey included only housing units. The principal exclusions were living quarters classified as:

- C transient hotels,
- C commercial and mission lodging houses,
- C inmate living quarters in institutions,
- C quarters for the military on military installations, and
- C other large group quarters not meeting the definition of a housing unit.

Also generally excluded were housing units in special places. These included housing units located on the grounds of institutions (both civilian and military), with the exception of residential hotels and motels. Housing units with a Certificate of Occupancy issued for the first time after October 31, 1998 were also excluded.

## **II. ESTIMATION PROCEDURE**

To estimate housing unit characteristics the Census Bureau used a three-stage ratio estimation procedure. The same procedure to estimate person characteristics was used, but a ratio estimate factor was added to adjust for person undercoverage within households. Prior to the ratio estimation procedures, the basic weight (the inverse of the probability of selection for the unit) was adjusted for each interviewed unit to account for type-A noninterviews.

In rem units had multiple chances of selection. They were eligible for selection from:

- C both the 1990 Census and the respective in rem frames,
- C possibly the conversion frame (as such units could become in rem), and
- C new construction frame (as such units could become in rem).

The basic weights reflect the fact that they had multiple chances of selection.

### **A. Type-A Noninterview Adjustment Factor**

The Census Bureau applied the noninterview adjustment factor (adjusting for type-A noninterviews) to all interviewed units separately for old construction units (frames one and four) and new construction/conversion units (frames two and three).

For old construction units, the factor was computed separately by borough for 99 cells using the following NYCHVS characteristics:

- (a) Monthly rent (less than 100, 100-199, 200-299, 300-399, 400-499, 500-599, 600-699, 700-999, 1000 +).
- (b) Value (less than 25000, 25000-49999, 50000-74999, 75000-99999, 100000-149999, 150000-199999, 200000-249999, 250000-299999, 300000-399999, 400000-499999, 500000 +).
- (c) Number of rooms (rent: 1, 2, 3, 4+, or 1-2, 3, 4, 5+, or 1-3, 4, 5, 6+; own: 1-4, 5, 6, 7+, or 1-3, 4, 5, 6+, or 1-3, 4, 5-6, 7+, or 1-4, 5, 6, 7+, or 1-5, 6, 7, 8+, or 1-5, 6-7, 8, 9+).
- (d) Vacancy status (renter occupied/vacant for rent, owner occupied/vacant for sale, vacant/without tenure or vacancy status).

1996 NYCHVS data were used, where available, to determine the tenure and characteristics of a unit. If the 1996 NYCHVS data were not available, either 1993 NYCHVS data or 1991 NYCHVS data or 1990 Census data or 1999 NYCHVS data were used (in that order).

For new construction/conversion units, the noninterview factor was computed separately by type of unit (new construction and conversion), year the C of O was issued (new construction only), and borough.

The noninterview adjustment factor was equal to the following ratio for each cell:

$$\frac{(\text{weighted count of interviewed units}) + (\text{weighted count of Type A noninterviews})}{(\text{weighted count of interviewed units})}$$

## **B. Ratio Estimate Factors**

The Census Bureau used a three-stage housing unit ratio estimation procedure and a one-stage person ratio estimation procedure :

- C to account for known sampling variability in the 1990 census frame (frame one),
- C to account for known sampling variability in the in rem frame (frame four),

- C to bring the sample estimates of housing units into close agreement with estimates derived from independent sources, and
- C to account for housing unit and person undercoverage.

For each ratio estimation procedure, the Census Bureau computed factors for ratio estimate cells (characteristics) and applied the factors to the appropriate units in the

$$\frac{\text{Independent estimate of number of HUs (persons) for the cell}}{\text{NYCHVS sample estimate of number of HUs (persons) for the cell}}$$

corresponding cell. The factors were equal to the following ratio:

The denominators of the ratios equaled the sum of the weights of housing units, or persons, with all previous factors applied, on all records in the corresponding cell.

1. 1990 Census Ratio Estimate Factor

The Census Bureau applied this ratio estimation procedure to all 1990 census units in the NYCHVS sample (units from frame one and frame four). This procedure adjusted for differences between the 1990 census counts and the corresponding sample counts. These differences occurred because of sampling variability, which was increased since the sample was not selected from the final census file. The factors were computed separately by borough for each of the 138 cells using the following 1990 census characteristics:

- C Monthly rent
- C Value
- C Race of householder
- C Hispanic origin
- C Vacancy status

The 1990 census counts of housing units were used as the independent estimates for each cell.

2. In Rem Ratio Estimate Factor

The Census Bureau applied this ratio estimation procedure to all in rem sample units (frames one and four). This procedure adjusted for known sampling variability in the in rem sample selection. Ratio estimate factors were computed

for each borough (five cells). The independent estimates were the total number of in rem units in each borough in the in rem frame.

3. 1999 Housing Unit Ratio Estimate Factor

The Census Bureau applied this ratio estimation procedure to all interviewed housing units. This procedure adjusted the 1999 NYCHVS sample estimate for housing unit undercoverage by controlling the sample estimate to independently derived estimates. The ratio estimate factor were computed for each of the boroughs (5 cells). The independent estimates were equal to the total number of housing units in each of the boroughs at the time of the survey.

4. 1999 Person Ratio Estimate Factor

This additional adjustment accounted for sampling variability and known coverage deficiencies for persons within interviewed households. The Census Bureau computed this factor within each borough by age, race, and sex (80 cells).

During the analysis of the 1993 NYCHVS, inconsistencies were noted when estimates were made using different weights (i.e., housing unit weight vs. person or population weight) for certain person characteristics. In order to reduce the effect of this discrepancy, the Census Bureau modified the calculation of the person ratio estimate factor, beginning with the 1996 NYCHVS.

Previously, the ratio equaled the independent estimate of persons for the cell divided by the NYCHVS sample estimate of persons for the cell. This method assumes that all persons with a given age/race/sex have an equal chance of being missed by the survey. Some of the observed inconsistencies in the data could be eliminated by assuming that the reference person and his or her spouse or unmarried partner are always picked up by the survey if the housing unit is interviewed (i.e., only persons other than reference persons, spouses, or unmarried partners could be missed in interviewed housing units).

Thus, the new numerator of the ratio equaled the independent estimate of persons for the cell minus the NYCHVS sample estimate of reference persons and spouses or unmarried partners. The new denominator of the ratio equaled the NYCHVS sample estimate of persons other than reference persons, spouses or unmarried partners for the cell. The new person ratio estimate factor was applied only to the persons other than reference persons, spouses, or unmarried partners.

### **C. Change in Methodology to Compute Person Controls**

For 1991, the Census Bureau extrapolated the change between the 1980 and 1990 censuses to derive the person controls. Beginning in 1993, independently derived current estimates based on the 1990 Census and Medicare data were used.

Since 1993, the Census Bureau computed controls using a modified 1990 Census age/race/sex classification. Among other things, the modified age/race/sex classification puts Hispanics whose race is classified as "other" into a specific race category. The 1993 and 1996 controls, based on a modified age/race/sex classification, reflect Hispanics in all race categories except "other". On the other hand, the 1991 controls reflect Hispanics in the "other race" category. Since this change caused unexplainable fluctuations in the "other race" category, the white and "other race" categories were combined in every enumeration since 1993 for the purposes of person ratio estimation.

As part of the regular NYCHVS processing, Hispanics and non-Hispanics who listed their race as "other" were allocated to specific race categories. Also, non-reports to the race question were allocated to specific race categories. The net effect of these changes was the African-American and "other race" controls increased and the white controls decreased. Some of this change may be real but most is probably due to the change in methodology.

During the re-processing of the 1991 data for the longitudinal file, it was discovered that the person controls originally used had not been reduced by an amount equal to the estimated number of persons living in special place housing units (see section I.F. for a description), which are not eligible for this survey. The problem was corrected for the longitudinal file, so any tabulations from this file will result in slightly lower estimates of total persons than had originally been produced for 1991.

The ratio estimation procedures, as well as the overall estimation procedure, reduced the sampling error for most statistics below what would have been obtained by simply weighting the sample by the basic weight.

## **III. SAMPLING AND NONSAMPLING ERRORS**

The statistics produced from this survey are estimates derived from a sample. They will differ from the true values being estimated. There are two types of errors which cause estimates based on a sample survey to differ from the true value: nonsampling error and sampling error.

### **A. Nonsampling Errors**



Suppose every housing unit in New York City were interviewed. Estimates would still differ from the true value (for example, the median contract rent). In this instance, the difference is due solely to nonsampling errors. The Census Bureau attributes nonsampling errors in sample surveys to many sources:

- C Deficiencies in the sampling frame (i.e., not all housing units are covered),
- C Inability to pick up all persons within sample households
- C Inability to obtain information about all cases in the sample
- C Definitional difficulties
- C Differences in the interpretation of questions
- C Inability or unwillingness to provide correct information on the part of the respondents, and
- C Mistakes in recording, coding or keying the data obtained.

There are also other errors of collection, response, processing, coverage, and estimation for missing data.

In the 1999 NYCHVS, about three-fourths of 1 percent of the housing units in the five boroughs covered by the survey were missed. Overall, about 3 percent of the people in sample households were missed. This within-household undercoverage varied by age, race, sex, and borough. It ranged from about a 37-percent overcoverage of African American females between 15-24 in Staten Island to a 32-percent undercoverage of African American males between 25-64 in Manhattan. The following table gives the undercoverage of the various race-sex groups for the city as a whole:

Race-Sex Group	Undercoverage
White & Other Females	.014%
White & Other Males	2 %
African American Females	5 %
African American Males	9 %

The Census Bureau adjusted for this undercoverage through the housing unit and person ratio estimate factors. Measures of other errors for this survey are not available. However, some of the important response and most of the operational errors were detected and corrected during the Bureau's review of the data for reasonableness and consistency.

## B. Sampling Errors

Sampling error reflects how estimates from a sample vary from the actual value.

**NOTE: The term "actual value" is the value the Census Bureau would have gotten had all housing units been interviewed, under the same conditions, rather than only a sample.**

The formulas in Tables 1 through 24 can be used to compute a range of error for which there is a known probability of being correct if it is stated the actual value is within that range. The error formulas are approximations to the errors; they indicate the order of magnitude of the errors rather than the actual errors for any specific characteristic. To construct the range, add and subtract the error computed from the formulas to the estimate.

Use tables 1-6 to compute errors for estimates from 1999 data. Use tables 7-12 to compute errors for estimates from 1996 data. Use tables 13-18 to compute errors for estimates from 1993 data. Use tables 19-24 to compute errors for estimates from 1991 data.

The letter "A" in the formula represents the weighted sample estimate that was derived from the file.

The letter "Z" determines the probability the actual value is within the computed range. The larger the value of Z, the larger the range, and the higher the odds the actual value will be in the range. The following values of Z are most commonly used.

Value of Z	Meaning
1.00	There is a 67-percent chance that the actual value is in the range that was computed.
1.64	There is a 90-percent chance that the actual value is in the range that was computed.
1.96	There is a 95-percent chance that the actual value is in the range that was computed.
2.58	There is a 99-percent chance that the actual value is in the range that was computed.

Note that if  $Z = 1.00$ , the formula computes the standard error. Ranges of 90 and 95 percent are commonly used. The range of error is also referred to as the confidence interval since there is a certain level of confidence the actual value is within the interval.

For example there are 19,819 vacant-for-rent units in Brooklyn in 1999. To compute a 90 percent confidence interval, use the first formula in Table 3 and compute the error

$$Z \times \sqrt{(266.27 \times A) - (.000307 \times A^2)}$$

as follows:

$$1.64 \times \sqrt{(266.27 \times 19,819) - (.000307 \times 19,819^2)} = 3,724$$

Thus, there is a 90-percent chance the actual number of vacant-for-rent units in Brooklyn is 19,819 plus or minus 3,724, or in the range 16,095 to 23,543.

If the estimate involves two characteristics from Tables 1 through 24, use the formula with the larger first number under the square root.

#### 1. Percents

The formula for computing the error of any percent derived from the data is the

$$Z \times Y \times \sqrt{\frac{K \times P \times (100 - P)}{B}}$$

following:

where:

K = 266.27 for estimates from 1999,  
256.52 for estimates from 1996,  
246.71 for estimates from 1993, or  
271.56 for estimates from 1991.

Z: defines the confidence the range will include the actual value,

Y: is the number from the last column of Tables 1 through 24  
(chosen based on the denominator),

P: is the calculated percent and

B: is the denominator of the percent.

For example, in 1999, there were 898,395 households in units built between 1947 and 1969 and 338,701, or 37.7 percent, are owners. The error from

$$1.64 \times 1.189 \times \sqrt{\frac{266.27 \times 37.7 \times 62.3}{898,395}} = 1.6$$

sampling for a 90-percent confidence interval for that percentage of owners is: Thus, there is a 90-percent chance that the actual percentage of owners in buildings built between 1947 and 1969 is between 36.1 and 39.3 percent.

## 2. Differences

People often ask whether two numbers are actually different. If the range of error for the difference does not include zero, the numbers are different. As a general rule, if the confidence intervals do not overlap, they are different. To compute the range of error of the difference, use the following formula:

$$\sqrt{(\text{error on first number})^2 + (\text{error on second number})^2}$$

This formula is quite accurate for:

- C the difference between estimates of the same item in two different areas or
- C the difference between separate and uncorrelated items in the same area.

If there is a high positive correlation between the two items, the formula will overestimate the error. If there is a high negative correlation, the formula will underestimate the error.

The following illustration shows how to compute the error of a difference:

In 1999, there were 10,406 vacant-for-rent units with 3 to 5 units in the building and 3,646 vacant-for-rent units with 6 to 9 units in the building. The respective

errors for a 90-percent confidence interval are 2,725 and 1,615. The error for

$$\sqrt{(2,725)^2 + (1,615)^2} = 3,168$$

a 90-percent confidence interval for the 6,760 difference is the following:  
Thus, there is a 90-percent chance the actual difference between vacant-for-rent units in 3 to 5 unit buildings vs. 6 to 9 unit buildings in 1999 is between 3,592 and 9,928.

### 3. Medians

The median is the value 50-percent of the way through the distribution. Thus, 50-percent of the total falls below and 50-percent falls above the median. Note that the median presented in this example is the true median (i.e., computed by SAS), not an approximation. A confidence interval can be constructed around the median by computing the standard error on a 50-percent characteristic and then translating that into an interval for the characteristic.

- a. Using the error formula for percents above, compute the error of 50-percent. The total number of housing units from the distribution is the denominator in the formula. Subtract the "not applicable" category from the total.
- b. Calculate the confidence interval for the true median by adding and subtracting the width of the interval containing the median times the standard error on the 50-percent characteristic divided by the proportion of units in the interval containing the median, to the median.

The probability of chance that the actual median is within the interval depends on the value of Z in the error of percent formula. The following example shows how to compute a 90-percent confidence interval:

The median value for all occupied housing units in 1999 is \$190,000. The number of occupied housing units in the distribution of value of units for 1999 is presented on the following page.

Distribution of Value of Units

Value	Number of HUs
Less Than \$25,000	61,739
\$25,000-\$49,999	40,434
\$50,000-\$74,999	43,832
\$75,000-\$99,999	31,103
\$100,000-\$149,999	93,692
\$150,000-\$199,999	203,682
\$200,000-\$249,999	154,846
\$250,000-\$299,999	108,783
\$300,000-\$349,999	56,393
\$350,000-\$399,999	28,257
\$400,000-\$499,999	29,249
\$500,000-\$599,999	14,890
\$600,000-\$699,999	6,396
\$700,000-\$799,999	11,246
\$800,000-\$999,999	10,112
\$1,000,000 or more	20,474
Not Applicable	1,953,289
<b>TOTAL</b>	<b>2,868,412</b>

1. The error on a 50-percent characteristic based on 915,123 (2,868,412 minus the "not applicable") housing units is calculated as follows:

$$1.64 \times 1.0000 \times \sqrt{\frac{266.27 \times 50 \times 50}{915,123}} = 1.40$$

2. The 90-percent confidence interval for the median (\$190,000) is:

$$190,000 \pm (199,999.5 - 149,999.5) \times \frac{1.40}{22.26} = 190,000 \pm 3,145$$

where:

199,999.5-149,999.5 is the width of the interval that contains the median

1.44 is the error for a 90-percent confidence interval for the 50-percent characteristic

22.26 is the percent of cases that fall in the interval containing the median

Thus, there is a 90-percent chance that the actual median for all occupied housing units in New York City in 1999 (\$190,000) is between \$186,855 and \$193,145.

#### 4. Means

The mean and the median usually differ. The mean is usually higher because it is influenced more heavily than the median by very large values. Use the following formula to estimate the error of the mean:

$$Z \times Y \times \sqrt{\frac{\sum_{i=1}^n p_i x_i^2 - \left(\sum_{i=1}^n p_i x_i\right)^2}{c}} \times K$$

where:

K = 266.27 for estimates from 1999,  
256.52 for estimates from 1996,  
246.71 for estimates from 1993, or  
271.56 for estimates from 1991.

Y: is the number from the last column of Tables 1 through 24

Z: defines the confidence the range will include the actual value

p<sub>i</sub>: is the proportion of total households or persons from a distribution in the i<sup>th</sup> interval

x<sub>i</sub>: is the midpoint of the i<sup>th</sup> interval (NOTE: The midpoint of the open-ended interval is 1.5 times the lower limit)

c: is the total number of households or persons in the distribution (NOTE: Subtract the number of "not applicable" from the total to get c)

n: is the total number of intervals in the distribution

For example, the mean (or average) value of all owner-occupied housing units in 1999 was \$235,358 (compared to a median of \$190,000). The distribution from which the mean was computed is given on the following page.



Value	Number of HUs	p <sub>i</sub>	x <sub>i</sub>
Less Than \$25,000	61,739	.0675	\$12,500
\$25,000-\$49,999	40,434	.0442	\$37,500
\$50,000-\$74,999	43,832	.0479	\$62,500
\$75,000-\$99,999	31,103	.0340	\$87,500
\$100,000-\$149,999	93,692	.1024	\$125,000
\$150,000-\$199,999	203,682	.2226	\$175,000
\$200,000-\$249,999	154,846	.1692	\$225,000
\$250,000-\$299,999	108,783	.1189	\$275,000
\$300,000-\$349,999	56,393	.0616	\$325,000
\$350,000-\$399,999	28,257	.0309	\$375,000
\$400,000-\$499,999	29,249	.0320	\$450,000
\$500,000-\$599,999	14,890	.0163	\$550,000
\$600,000-\$699,999	6,396	.0070	\$650,000
\$700,000-\$799,999	11,246	.0123	\$750,000
\$800,000-\$999,999	10,112	.0110	\$900,000
\$1,000,000 Or More	20,474	.0224	\$1,500,000
Not Applicable	1,953,289	-----	
Total	2,868,412	1.000	

Plugging the numbers in the above formula, the error for a 90-percent confidence interval on the mean income is computed as follows:

$$1.64 \times 1.000 \times \sqrt{\frac{117,943,625,000 - (243,240,00)^2}{915,123}} \times 266.27 = \$6,782$$

Thus, there is a 90-percent chance that the mean value of owner-occupied housing units in New York City in 1999 is between \$228,576 and \$242,140.

**Table 1: Errors for New York City: 1999**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{266.27 \times A - .000088 \times A^2}$ or $Z \times 266$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 25 for a listing)	$Z \times \sqrt{360.62 \times A - .000118 \times A^2}$ or $Z \times 361$	1.164
NYC Housing Unit totals (all borough and sub-borough)	$Z \times \sqrt{534.71 \times A - .000165 \times A^2}$ or $Z \times 535$	1.417
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{304.11 \times A - .000042 \times A^2}$ or $Z \times 304$	1.069
	<b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other Races and Ethnicity	$Z \times \sqrt{813.49 \times A - .000162 \times A^2}$ or $Z \times 813$	1.748
Males	$Z \times \sqrt{813.49 \times A - .000239 \times A^2}$ or $Z \times 813$	1.748
Females	$Z \times \sqrt{813.49 \times A - .000212 \times A^2}$ or $Z \times 813$	1.748
Persons under 25 yrs. old	$Z \times \sqrt{531.86 \times A - .000073 \times A^2}$ or $Z \times 532$	1.413
African Americans	$Z \times \sqrt{1,533.89 \times A - .000687 \times A^2}$ or $Z \times 1,534$	2.400
Borough and Sub-borough	$Z \times \sqrt{1,533.89 \times A - .000212 \times A^2}$ or $Z \times 1,534$	2.400

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 2: Errors for The Bronx: 1999**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{266.27 \times A - .000593 \times A^2}$ or $Z \times 266$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 25 for a listing)	$Z \times \sqrt{360.62 \times A - .000799 \times A^2}$ or $Z \times 361$	1.164
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{534.71 \times A - .001190 \times A^2}$ or $Z \times 535$	1.417
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{304.11 \times A - .000268 \times A^2}$ or $Z \times 304$	1.069
	<b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other Races and Ethnicity	$Z \times \sqrt{813.49 \times A - .001252 \times A^2}$ or $Z \times 813$	1.748
Males	$Z \times \sqrt{813.49 \times A - .001568 \times A^2}$ or $Z \times 813$	1.748
Females	$Z \times \sqrt{813.49 \times A - .001325 \times A^2}$ or $Z \times 813$	1.748
Persons under 25 yrs. old	$Z \times \sqrt{531.86 \times A - .000469 \times A^2}$ or $Z \times 532$	1.413
African Americans	$Z \times \sqrt{1,533.89 \times A - .003174 \times A^2}$ or $Z \times 1,534$	2.400
Sub-borough and Borough	$Z \times \sqrt{1,533.89 \times A - .001354 \times A^2}$ or $Z \times 1,534$	2.400

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

Table 3: Errors for Brooklyn: 1999

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
Errors on Housing Units		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{266.27 \times A - .000\ 307 \times A^2}$ or $Z \times 266$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 25 for a listing)	$Z \times \sqrt{360.62 \times A - .000\ 413 \times A^2}$ or $Z \times 361$	1.164
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{534.71 \times A - .000\ 616 \times A^2}$ or $Z \times 535$	1.417
Errors on Persons		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{304.11 \times A - .000\ 138 \times A^2}$ or $Z \times 304$	1.069
	<p>NOTE: For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).</p>	
Whites and other Races and Ethnicity	$Z \times \sqrt{813.49 \times A - .000\ 615 \times A^2}$ or $Z \times 813$	1.748

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
Males	$Z \times \sqrt{813.49 \times A - .000789 \times A^2} \text{ or } Z \times 813$	1.748
Females	$Z \times \sqrt{813.49 \times A - .000691 \times A^2} \text{ or } Z \times 813$	1.748
Persons under 25 yrs. old	$Z \times \sqrt{531.86 \times A - .000241 \times A^2} \text{ or } Z \times 532$	1.413
African Americans	$Z \times \sqrt{1,533.89 \times A - .001731 \times A^2} \text{ or } Z \times 1,534$	2.400
Sub-borough and Borough	$Z \times \sqrt{1,533.89 \times A - .000694 \times A^2} \text{ or } Z \times 1,534$	2.400

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

Table 4: Errors for Manhattan: 1999

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
Errors on Housing Units		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{266.27 \times A - .000\ 340 \times A^2}$ or $Z \times 266$	1.0000
Housing Unit Clustering Items <sup>1</sup> (see Table 25 for a listing)	$Z \times \sqrt{360.62 \times A - .000\ 459 \times A^2}$ or $Z \times 361$	1.164
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{534.71 \times A - .000\ 684 \times A^2}$ or $Z \times 535$	1.417
Errors on Persons		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{304.11 \times A - .000\ 196 \times A^2}$ or $Z \times 304$	1.069
	NOTE: For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other	$Z \times \sqrt{813.49 \times A - .000\ 698 \times A^2}$ or $Z \times 813$	1.748

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
Races and Ethnicity		
Males	$Z \times \sqrt{813.49 \times A - .001112 \times A^2}$ or $Z \times 813$	1.748
Females	$Z \times \sqrt{813.49 \times A - .000991 \times A^2}$ or $Z \times 813$	1.748
Persons under 25 yrs. old	$Z \times \sqrt{531.86 \times A - .000343 \times A^2}$ or $Z \times 532$	1.413
African Americans	$Z \times \sqrt{1,533.89 \times A - .003972 \times A^2}$ or $Z \times 1,534$	2.400
Sub-borough and Borough	$Z \times \sqrt{1,533.89 \times A - .000988 \times A^2}$ or $Z \times 1,534$	2.400

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.



Table 5: Errors for Queens: 1999

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
Errors on Housing Units		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{266.27 \times A - .000\ 339 \times A^2}$ or $Z \times 266$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 25 for a listing)	$Z \times \sqrt{360.62 \times A - .000\ 456 \times A^2}$ or $Z \times 361$	1.164
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{534.71 \times A - .000\ 680 \times A^2}$ or $Z \times 535$	1.417
Errors on Persons		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{304.11 \times A - .000\ 156 \times A^2}$ or $Z \times 304$	1.069
	NOTE: For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other Races and Ethnicity	$Z \times \sqrt{813.49 \times A - .000\ 539 \times A^2}$ or $Z \times 813$	1.748

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
Males	$Z \times \sqrt{813.49 \times A - .000871 \times A^2}$ or $Z \times 813$	1.748
Females	$Z \times \sqrt{813.49 \times A - .000799 \times A^2}$ or $Z \times 813$	1.748
Persons under 25 yrs. old	$Z \times \sqrt{531.86 \times A - .000272 \times A^2}$ or $Z \times 532$	1.413
African Americans	$Z \times \sqrt{1,533.89 \times A - .003458 \times A^2}$ or $Z \times 1,534$	2.400
Sub-borough and Borough	$Z \times \sqrt{1,533.89 \times A - .000786 \times A^2}$ or $Z \times 1,534$	2.400

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

Table 6: Errors for Staten Island: 1999

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
Errors on Housing Units		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{266.27 \times A - .001744 \times A^2}$ or $Z \times 266$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 25 for a listing)	$Z \times \sqrt{360.62 \times A - .002350 \times A^2}$ or $Z \times 361$	1.164
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{534.71 \times A - .003502 \times A^2}$ or $Z \times 535$	1.417
Errors on Persons		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{304.11 \times A - .000763 \times A^2}$ or $Z \times 304$	1.069
	NOTE: For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other Races and Ethnicity	$Z \times \sqrt{813.49 \times A - .002219 \times A^2}$ or $Z \times 813$	1.803

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
Males	$Z \times \sqrt{813.49 \times A - .004212 \times A^2}$ or $Z \times 813$	1.803
Females	$Z \times \sqrt{813.49 \times A - .003958 \times A^2}$ or $Z \times 813$	1.803
Persons under 25 yrs. old	$Z \times \sqrt{531.86 \times A - .001334 \times A^2}$ or $Z \times 532$	1.413
African Americans	$Z \times \sqrt{1,533.89 \times A - .047835 \times A^2}$ or $Z \times 1,534$	2.400
Sub-borough and Borough	$Z \times \sqrt{1,533.89 \times A - .003848 \times A^2}$ or $Z \times 1,534$	2.400

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 7: Errors for New York City: 1996**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{256.52 \times A - .000086 \times A^2}$ or $Z \times 257$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 25 for a listing)	$Z \times \sqrt{362.94 \times A - .000121 \times A^2}$ or $Z \times 363$	1.189
NYC Housing Unit totals (all borough and sub-borough)	$Z \times \sqrt{532.19 \times A - .000178 \times A^2}$ or $Z \times 532$	1.440
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{294.82 \times A - .000041 \times A^2}$ or $Z \times 295$	1.072
NOTE: For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below (e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)). Use the formula above (Characteristics of Persons Not Listed Below).		
Whites and other Races and Ethnicity	$Z \times \sqrt{833.63 \times A - .000187 \times A^2}$ or $Z \times 834$	1.803
Males	$Z \times \sqrt{833.63 \times A - .000244 \times A^2}$ or $Z \times 834$	1.803
Females	$Z \times \sqrt{833.63 \times A - .000217 \times A^2}$ or $Z \times 834$	1.803
Persons under 25 yrs. old	$Z \times \sqrt{578.63 \times A - .000238 \times A^2}$ or $Z \times 579$	1.502
African Americans	$Z \times \sqrt{1,502.91 \times A - .000672 \times A^2}$ or $Z \times 1,503$	2.421
Borough and Sub-borough	$Z \times \sqrt{1,502.91 \times A - .000207 \times A^2}$ or $Z \times 1,503$	2.421

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 8: Errors for the Bronx: 1996**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{256.52 \times A - .000573 \times A^2} \text{ or } Z \times 257$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 25 for a listing)	$Z \times \sqrt{362.94 \times A - .000811 \times A^2} \text{ or } Z \times 363$	1.189
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{532.19 \times A - .001190 \times A^2} \text{ or } Z \times 532$	1.440
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{294.82 \times A - .000254 \times A^2} \text{ or } Z \times 295$	1.072
	<b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below (e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)). Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other Races and Ethnicity	$Z \times \sqrt{833.63 \times A - .001346 \times A^2} \text{ or } Z \times 834$	1.803
Males	$Z \times \sqrt{833.63 \times A - .001570 \times A^2} \text{ or } Z \times 834$	1.803
Females	$Z \times \sqrt{833.63 \times A - .001327 \times A^2} \text{ or } Z \times 834$	1.803
Persons under 25 yrs. old	$Z \times \sqrt{578.63 \times A - .001260 \times A^2} \text{ or } Z \times 579$	1.502
African Americans	$Z \times \sqrt{1,502.91 \times A - .003039 \times A^2} \text{ or } Z \times 1,503$	2.421
Sub-borough and Borough	$Z \times \sqrt{1,502.91 \times A - .001296 \times A^2} \text{ or } Z \times 1,503$	2.421

<sup>1</sup> Clustering Items are items that end to apply to all units in a building.

**Table 9: Error for Booklyn: 1996**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{256.52 \times A - .000293 \times A^2}$ or $Z \times 257$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 25 for a listing)	$Z \times \sqrt{362.94 \times A - .000415 \times A^2}$ or $Z \times 363$	1.189
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{532.19 \times A - .000608 \times A^2}$ or $Z \times 532$	1.440
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{294.82 \times A - .000134 \times A^2}$ or $Z \times 295$	1.072
	<p><b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below (e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)). Use the formula above (Characteristics of Persons Not Listed Below).</p>	
Whites and other Races and Ethnicity	$Z \times \sqrt{833.63 \times A - .000696 \times A^2}$ or $Z \times 834$	1.803
Males	$Z \times \sqrt{833.63 \times A - .000813 \times A^2}$ or $Z \times 834$	1.803
Females	$Z \times \sqrt{833.63 \times A - .000712 \times A^2}$ or $Z \times 834$	1.803
Persons under 25 yrs. old	$Z \times \sqrt{578.63 \times A - .000709 \times A^2}$ or $Z \times 579$	1.502
African Americans	$Z \times \sqrt{1,502.91 \times A - .001706 \times A^2}$ or $Z \times 1,503$	2.421
Sub-borough and Borough	$Z \times \sqrt{1,502.91 \times A - .000684 \times A^2}$ or $Z \times 1,503$	2.421

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 10: Errors for Manahattan: 1996**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{256.52 \times A - .000331 \times A^2}$ or $Z \times 257$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 25 for a listing)	$Z \times \sqrt{362.94 \times A - .000468 \times A^2}$ or $Z \times 363$	1.189
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{532.19 \times A - .000687 \times A^2}$ or $Z \times 532$	1.440
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{294.82 \times A - .000194 \times A^2}$ or $Z \times 295$	1.072
	<b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other Races and Ethnicity	$Z \times \sqrt{833.63 \times A - .000817 \times A^2}$ or $Z \times 834$	1.803
Males	$Z \times \sqrt{833.63 \times A - .001163 \times A^2}$ or $Z \times 834$	1.803
Females	$Z \times \sqrt{833.63 \times A - .001034 \times A^2}$ or $Z \times 834$	1.803
Persons under 25 yrs. old	$Z \times \sqrt{578.63 \times A - .001034 \times A^2}$ or $Z \times 579$	1.502
African Americans	$Z \times \sqrt{1,502.91 \times A - .003958 \times A^2}$ or $Z \times 1,503$	2.421
Sub-borough and Borough	$Z \times \sqrt{1,502.91 \times A - .000987 \times A^2}$ or $Z \times 1,503$	2.421

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.



**Table 11: Errors for Queens: 1996**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{256.52 \times A - .000341 \times A^2} \text{ or } Z \times 257$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 25 for a listing)	$Z \times \sqrt{362.94 \times A - .000483 \times A^2} \text{ or } Z \times 363$	1.189
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{532.19 \times A - .000708 \times A^2} \text{ or } Z \times 532$	1.440
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{294.82 \times A - .000149 \times A^2} \text{ or } Z \times 295$	1.072
	<b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other Races and Ethnicity	$Z \times \sqrt{833.63 \times A - .000657 \times A^2} \text{ or } Z \times 834$	1.803
Males	$Z \times \sqrt{833.63 \times A - .000882 \times A^2} \text{ or } Z \times 834$	1.803
Females	$Z \times \sqrt{833.63 \times A - .000808 \times A^2} \text{ or } Z \times 834$	1.803
Persons under 25 yrs. old	$Z \times \sqrt{578.63 \times A - .000937 \times A^2} \text{ or } Z \times 579$	1.502
African Americans	$Z \times \sqrt{1,502.91 \times A - .003343 \times A^2} \text{ or } Z \times 1,503$	2.421
Sub-borough and Borough	$Z \times \sqrt{1,502.91 \times A - .000760 \times A^2} \text{ or } Z \times 1,503$	2.421

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 12: Errors for Staten Island: 1996**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{256.52 \times A - .001758 \times A^2} \text{ or } Z \times 257$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 25 for a listing)	$Z \times \sqrt{362.94 \times A - .002487 \times A^2} \text{ or } Z \times 363$	1.189
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{532.19 \times A - .003647 \times A^2} \text{ or } Z \times 532$	1.440
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{294.82 \times A - .000747 \times A^2} \text{ or } Z \times 295$	1.072
	<b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below (e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)). Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other Races and Ethnicity	$Z \times \sqrt{833.63 \times A - .002422 \times A^2} \text{ or } Z \times 834$	1.803
Males	$Z \times \sqrt{833.63 \times A - .004356 \times A^2} \text{ or } Z \times 834$	1.803
Females	$Z \times \sqrt{833.63 \times A - .004099 \times A^2} \text{ or } Z \times 834$	1.803
Persons under 25 yrs. old	$Z \times \sqrt{578.63 \times A - .004175 \times A^2} \text{ or } Z \times 579$	1.502
African Americans	$Z \times \sqrt{1,502.91 \times A - .047088 \times A^2} \text{ or } Z \times 1,503$	2.421
Sub-borough and Borough	$Z \times \sqrt{1,502.91 \times A - .003807 \times A^2} \text{ or } Z \times 1,503$	2.421

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 13: Errors for New York City: 1993**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{246.71 \times A - .000083 \times A^2}$ or $Z \times 247$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 26 for a listing)	$Z \times \sqrt{352.88 \times A - .000118 \times A^2}$ or $Z \times 353$	1.196
NYC Housing Unit Totals for Total OCC., Renter OCC, and Control Status	$Z \times \sqrt{603.46 \times A - .000202 \times A^2}$ or $Z \times 603$	1.564
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{277.93 \times A - .000039 \times A^2}$ or $Z \times 278$	1.061
Total persons by . control status, . ownership status, . any geography, and . other characteristics that apply to all units in a building (e.g., units in building) for the following:	<b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above for Characteristics of Persons not listed Below.	
Whites and other Races and Ethnicity	$Z \times \sqrt{732.39 \times A - .000149 \times A^2}$ or $Z \times 732$	1.723
Males	$Z \times \sqrt{732.39 \times A - .000219 \times A^2}$ or $Z \times 732$	1.723
Females	$Z \times \sqrt{723.39 \times A - .000193 \times A^2}$ or $Z \times 732$	1.723
Persons under 25 yrs. old	$Z \times \sqrt{485.11 \times A - .000202 \times A^2}$ or $Z \times 485$	1.402
African Americans	$Z \times \sqrt{1,813.80 \times A - .000820 \times A^2}$ or $Z \times 1,813$	2.711
NYC	$Z \times \sqrt{1,813.80 \times A - .000254 \times A^2}$ or $Z \times 1,813$	2.711

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 14: Errors for The Bronx: 1993**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{246.71 \times A - .000559 \times A^2}$ or $Z \times 247$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 26 for a listing)	$Z \times \sqrt{352.88 \times A - .000800 \times A^2}$ or $Z \times 353$	1.196
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{603.46 \times A - .001368 \times A^2}$ or $Z \times 603$	1.564
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{277.93 \times A - .000243 \times A^2}$ or $Z \times 278$	1.061
Total persons by . control status, . ownership status, . any geography, and . other characteristics that apply to all units in a building (e.g., units in building) for the following	<b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other Races and Ethnicity	$Z \times \sqrt{732.39 \times A - .001116 \times A^2}$ or $Z \times 732$	1.723
Males	$Z \times \sqrt{732.39 \times A - .001402 \times A^2}$ or $Z \times 732$	1.723
Females	$Z \times \sqrt{732.39 \times A - .001180 \times A^2}$ or $Z \times 732$	1.723
Persons under 25 yrs. old	$Z \times \sqrt{485.11 \times A - .001071 \times A^2}$ or $Z \times 485$	1.402
African Americans	$Z \times \sqrt{1,813.80 \times A - .003726 \times A^2}$ or $Z \times 1,813$	2.711
Sub-borough and Borough	$Z \times \sqrt{1,813.80 \times A - .001586 \times A^2}$ or $Z \times 1,813$	2.711

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 15: Errors for Brooklyn: 1993**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{246.71 \times A - .000284 \times A^2}$ or $Z \times 247$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 26 for a listing)	$Z \times \sqrt{352.88 \times A - .000406 \times A^2}$ or $Z \times 353$	1.196
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{603.46 \times A - .000695 \times A^2}$ or $Z \times 603$	1.564
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{277.93 \times A - .000124 \times A^2}$ or $Z \times 278$	1.061
Total persons by . control status, . ownership status, . any geography, and . other characteristics that apply to all units in a building (e.g., units in building) for the following	<b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other Races and Ethnicity	$Z \times \sqrt{732.39 \times A - .000545 \times A^2}$ or $Z \times 732$	1.723
Males	$Z \times \sqrt{732.39 \times A - .000701 \times A^2}$ or $Z \times 732$	1.723
Females	$Z \times \sqrt{732.39 \times A - .000611 \times A^2}$ or $Z \times 732$	1.723
Persons under 25 yrs. old	$Z \times \sqrt{485.11 \times A - .000580 \times A^2}$ or $Z \times 485$	1.402
African Americans	$Z \times \sqrt{1,813.80 \times A - .002018 \times A^2}$ or $Z \times 1,813$	2.711
Sub-borough and Borough	$Z \times \sqrt{1,813.80 \times A - .000809 \times A^2}$ or $Z \times 1,813$	2.711

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 16: Errors for Manhattan: 1993**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{246.71 \times A - .000315 \times A^2}$ or $Z \times 247$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 26 for a listing)	$Z \times \sqrt{352.88 \times A - .000451 \times A^2}$ or $Z \times 353$	1.196
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{603.46 \times A - .000770 \times A^2}$ or $Z \times 603$	1.564
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{277.93 \times A - .000193 \times A^2}$ or $Z \times 278$	1.061
Total persons by . control status, . ownership status, . any geography, and . other characteristics that apply to all units in a building (e.g., units in building) for the following	<b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other Races and Ethnicity	$Z \times \sqrt{732.39 \times A - .000676 \times A^2}$ or $Z \times 732$	1.723
Males	$Z \times \sqrt{732.39 \times A - .001083 \times A^2}$ or $Z \times 732$	1.723
Females	$Z \times \sqrt{732.39 \times A - .000956 \times A^2}$ or $Z \times 732$	1.723
Persons under 25 yrs. old	$Z \times \sqrt{485.11 \times A - .001280 \times A^2}$ or $Z \times 485$	1.402
African Americans	$Z \times \sqrt{1,813.80 \times A - .005052 \times A^2}$ or $Z \times 1,813$	2.711
Sub-borough and Borough	$Z \times \sqrt{1,813.80 \times A - .001257 \times A^2}$ or $Z \times 1,813$	2.711

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 17: Errors for Queens: 1993**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{246.71 \times A - .000329 \times A^2}$ or $Z \times 247$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 26 for a listing)	$Z \times \sqrt{352.88 \times A - .000470 \times A^2}$ or $Z \times 353$	1.196
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{603.46 \times A - .000804 \times A^2}$ or $Z \times 603$	1.564
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{277.93 \times A - .000145 \times A^2}$ or $Z \times 278$	1.061
Total persons by . control status, . ownership status, . any geography, and . other characteristics that apply to all units in a building (e.g., units in building) for the following	NOTE: For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other Races and Ethnicity	$Z \times \sqrt{732.39 \times A - .000493 \times A^2}$ or $Z \times 732$	1.723
Males	$Z \times \sqrt{732.39 \times A - .000800 \times A^2}$ or $Z \times 732$	1.723
Females	$Z \times \sqrt{732.39 \times A - .000728 \times A^2}$ or $Z \times 732$	1.723
Persons under 25 yrs. old	$Z \times \sqrt{485.11 \times A - .000807 \times A^2}$ or $Z \times 485$	1.402
African Americans	$Z \times \sqrt{1,813.80 \times A - .004163 \times A^2}$ or $Z \times 1,813$	2.711
Sub-borough and Borough	$Z \times \sqrt{1,813.80 \times A - .000944 \times A^2}$ or $Z \times 1,813$	2.711

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 18: Errors for Staten Island: 1993**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{246.71 \times A - .001730 \times A^2}$ or $Z \times 247$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 26 for a listing)	$Z \times \sqrt{352.88 \times A - .002475 \times A^2}$ or $Z \times 353$	1.196
Sub-borough and Borough Housing Unit totals	$Z \times \sqrt{603.46 \times A - .004232 \times A^2}$ or $Z \times 603$	1.564
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{277.93 \times A - .000727 \times A^2}$ or $Z \times 278$	1.061
Total persons by . control status, . ownership status, . any geography, and . other characteristics that apply to all units in a building (e.g., units in building) for the following	NOTE: For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites and other Races and Ethnicity	$Z \times \sqrt{732.39 \times A - .002085 \times A^2}$ or $Z \times 732$	1.723
Males	$Z \times \sqrt{732.39 \times A - .003959 \times A^2}$ or $Z \times 732$	1.723
Females	$Z \times \sqrt{732.39 \times A - .003715 \times A^2}$ or $Z \times 732$	1.723
Persons under 25 yrs. old	$Z \times \sqrt{485.11 \times A - .003590 \times A^2}$ or $Z \times 485$	1.402
African Americans	$Z \times \sqrt{1,813.80 \times A - .058762 \times A^2}$ or $Z \times 1,813$	2.711
Sub-borough and Borough	$Z \times \sqrt{1,813.80 \times A - .004746 \times A^2}$ or $Z \times 1,813$	2.711

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.



**Table 19: Errors for New York City: 1991**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{271.56 \times A - .000091 \times A^2} \text{ or } Z \times 272$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 26 for a listing)	$Z \times \sqrt{476.26 \times A - .000160 \times A^2} \text{ or } Z \times 476$	1.324
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{281.81 \times A - .000039 \times A^2} \text{ or } Z \times 282$	1.019
Total persons by • control status, • ownership status • any geography, and • other characteristics that apply to all units in a building (e.g., units in building) for the following:	<b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below (e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)). Use the formula above (Characteristics of Persons Not Listed Below).	
Whites	$Z \times \sqrt{826.70 \times A - .000226 \times A^2} \text{ or } Z \times 827$	1.745
Races other than White or African American, and Ethnicity	$Z \times \sqrt{826.70 \times A - .000116 \times A^2} \text{ or } Z \times 827$	1.745
Males	$Z \times \sqrt{826.70 \times A - .000218 \times A^2} \text{ or } Z \times 827$	1.745
Females	$Z \times \sqrt{826.70 \times A - .000247 \times A^2} \text{ or } Z \times 827$	1.745
Persons under 25 yrs. old	$Z \times \sqrt{457.96 \times A - .000191 \times A^2} \text{ or } Z \times 458$	1.299
African Americans	$Z \times \sqrt{1,465.59 \times A - .000704 \times A^2} \text{ or } Z \times 1,466$	2.323
NYC	$Z \times \sqrt{1,465.59 \times A - .000205 \times A^2} \text{ or } Z \times 1,466$	2.323

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 20: Errors for The Bronx: 1991**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{271.56 \times A - .000620 \times A^2}$ or $Z \times 272$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 26 for a listing)	$Z \times \sqrt{476.26 \times A - .001088 \times A^2}$ or $Z \times 476$	1.324
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{281.81 \times A - .000243 \times A^2}$ or $Z \times 282$	1.019
Total persons by . control status, . ownership status . any geography, and . other characteristics that apply to all units in a building (e.g., units in building) for the following:	NOTE: For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites	$Z \times \sqrt{826.70 \times A - .002098 \times A^2}$ or $Z \times 827$	1.745
Races other than White or African American, and Ethnicity	Use the Error for New York City	
Males	Use the Error for New York City	
Females	Use the Error for New York City	
Persons under 25 yrs. old	$Z \times \sqrt{457.96 \times A - .000996 \times A^2}$ or $Z \times 458$	1.299
African Americans	$Z \times \sqrt{1,465.59 \times A - .003306 \times A^2}$ or $Z \times 1,466$	2.323
Sub-borough and Borough	$Z \times \sqrt{1,465.59 \times A - .001262 \times A^2}$ or $Z \times 1,466$	2.323

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 21: Errors for Brooklyn: 1991**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{271.56 \times A - .000311 \times A^2}$ or $Z \times 272$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 26 for a listing)	$Z \times \sqrt{476.26 \times A - .000546 \times A^2}$ or $Z \times 476$	1.324
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{281.81 \times A - .000124 \times A^2}$ or $Z \times 282$	1.019
Total persons by . control status, . ownership status . any geography, and . other characteristics that apply to all units in a building (e.g., units in building) for the following:	NOTE: For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below (e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)). Use the formula above (Characteristics of Persons Not Listed Below).	
Whites	$Z \times \sqrt{826.70 \times A - .000796 \times A^2}$ or $Z \times 827$	1.745
Races other than White or African American, and Ethnicity	Use the Error for New York City	
Males	Use the Error for New York City	
Females	Use the Error for New York City	
Persons under 25 yrs. old	$Z \times \sqrt{457.96 \times A - .000544 \times A^2}$ or $Z \times 458$	1.299
African Americans	$Z \times \sqrt{1,465.59 \times A - .001672 \times A^2}$ or $Z \times 1,466$	2.323
Sub-borough and Borough	$Z \times \sqrt{1,465.59 \times A - .000646 \times A^2}$ or $Z \times 1,466$	2.323

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

Table 22: Errors for Manhattan: 1991

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{271.56 \times A - .000350 \times A^2}$ or $Z \times 272$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 26 for a listing)	$Z \times \sqrt{476.26 \times A - .000614 \times A^2}$ or $Z \times 476$	1.324
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{281.81 \times A - .000200 \times A^2}$ or $Z \times 282$	1.019
Total persons by . control status, . ownership status . any geography, and . other characteristics that apply to all units in a building (e.g., units in building) for the following:	NOTE: For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites	$Z \times \sqrt{826.70 \times A - .001010 \times A^2}$ or $Z \times 827$	1.745
Races other than White or African American, and Ethnicity	Use the Error for New York City	
Males	Use the Error for New York City	
Females	Use the Error for New York City	
Persons under 25 yrs. old	$Z \times \sqrt{457.96 \times A - .001237 \times A^2}$ or $Z \times 458$	1.299
African Americans	$Z \times \sqrt{1,465.59 \times A - .004778 \times A^2}$ or $Z \times 1,466$	2.323
Sub-borough and Borough	$Z \times \sqrt{1,465.59 \times A - .001038 \times A^2}$ or $Z \times 1,466$	2.323

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 23: Errors for Queens: 1991**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{271.56 \times A - .000360 \times A^2}$ or $Z \times 272$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 26 for a listing)	$Z \times \sqrt{476.26 \times A - .000632 \times A^2}$ or $Z \times 476$	1.324
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{281.81 \times A - .000146 \times A^2}$ or $Z \times 282$	1.019
Total persons by • control status, • ownership status • any geography, and • other characteristics that apply to all units in a building (e.g., units in building) for the following:	<b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below {e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)}. Use the formula above (Characteristics of Persons Not Listed Below).	
Whites	$Z \times \sqrt{826.70 \times A - .000761 \times A^2}$ or $Z \times 827$	1.745
Races other than White or African American, and Ethnicity	Use the Error for New York City	
Males	Use the Error for New York City	
Females	Use the Error for New York City	
Persons under 25 yrs. old	$Z \times \sqrt{457.96 \times A - .000764 \times A^2}$ or $Z \times 458$	1.299
African Americans	$Z \times \sqrt{1,465.59 \times A - .003454 \times A^2}$ or $Z \times 1,466$	2.323
Sub-borough and Borough	$Z \times \sqrt{1,465.59 \times A - .000760 \times A^2}$ or $Z \times 1,466$	2.323

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 24: Errors for Staten Island: 1991**

	Publication Estimates	Percentages
	The error is the larger of:	Value of Y for Percent Formula
<b>Errors on Housing Units</b>		
Characteristics of Housing Units Not Listed Below	$Z \times \sqrt{271.56 \times A - .001915 \times A^2}$ or $Z \times 272$	1.000
Housing Unit Clustering Items <sup>1</sup> (see Table 26 for a listing)	$Z \times \sqrt{476.26 \times A - .003359 \times A^2}$ or $Z \times 476$	1.324
<b>Errors on Persons</b>		
Characteristics of Persons Not Listed Below	$Z \times \sqrt{281.81 \times A - .000753 \times A^2}$ or $Z \times 282$	1.019
Total persons by . control status, . ownership status . any geography, and . other characteristics that apply to all units in a building (e.g., units in building) for the following:	<b>NOTE:</b> For any of the person characteristics listed below that are cross-tabbed by Borough and Sub-borough use the formula for the specific characteristic listed below. Don't use the formulas listed below for cross-tabs of characteristics of persons listed below (e.g., Age by sex (males under 25), Age by Race (African Americans under 25), or sex by race (white females)). Use the formula above (Characteristics of Persons Not Listed Below).	
Whites	$Z \times \sqrt{826.70 \times A - .002617 \times A^2}$ or $Z \times 827$	1.745
Races other than White or African American, and Ethnicity	Use the Error for New York City	
Males	Use the Error for New York City	
Females	Use the Error for New York City	
Persons under 25 yrs. old	$Z \times \sqrt{457.96 \times A - .003467 \times A^2}$ or $Z \times 458$	1.299
African Americans	$Z \times \sqrt{1,465.59 \times A - .047584 \times A^2}$ or $Z \times 1,466$	2.323
Sub-borough and Borough	$Z \times \sqrt{1,465.59 \times A - .003916 \times A^2}$ or $Z \times 1,466$	2.323

<sup>1</sup> Clustering Items are items that tend to apply to all units in a building.

**Table 25: Housing Unit Clustering Items for 1999 and 1996**

!	Access from Sidewalk to Elevator/Unit without using Stairs
!	Additional Heating Required
!	Boarded up Buildings in Neighborhood
!	Broken Plaster/Peeling Paint
!	Condition of Building and External Walls, Windows, Stairways, and Floors of Building for Total Occupied and Renter Occupied
!	Control Status (renters and owners)
!	Elevator in Building with 2 or more stories
!	Floor Unit is on
!	Heating Fuel - utility gas electricity only
!	Heating System Breakdown
!	Households Receiving Public Assistance/Welfare Payments
!	Length of Lease
!	Maintenance Deficiencies
!	Number of Stories in Building.
!	Number of Units in Building
!	Plumbing Facilities
!	Poor physical condition of Building
!	Race and Ethnicity of Householder
!	Rodent Infestation
!	Structure Classification/Condition Rating
!	Wheel Chair Accessibility
!	Year Building Built

**Table 26: Housing Unit Clustering Items for 1993 and 1991**

!	Additional Heating Required
!	Boarded up Buildings in Neighborhood
!	Coop/condo Status and Maintenance Fees
!	Control Status
!	Elevator in Building with 2 or more stories
!	Heating Fuel - utility gas electricity only
!	Heating System Breakdown
!	Kitchen Facilities
!	Number of Stories in Building
!	Number of Units in Building
!	Owner Occupied (Total Only)
!	Plumbing Facilities
!	Poor physical condition of Building
!	Race and Ethnicity of Holder
!	Renter Occupied (Total Only)
!	Structure Classification
!	Total for Borough - all except total occ., renter occ., and renter occ. control status
!	Year Building Built
!	Other characteristics that tend to apply to all units in a building